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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/550,716	09/23/2005	Satoshi Furuta	4700.P0319US	5997
23474 7590 04/04/2008 FLYNN THIEL BOUTELL & TANIS, P.C. 2026 RAMBLING ROAD KALAMAZOO, MI 49008-1631				
EXAMINER				
HAILEY, PATRICIA L				
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1793				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/550,716

Applicant(s)

SATOSHI FURUTA

Examiner

PATRICIA L. HAILEY

Art Unit

1793

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 December 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 3 and 4 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3 and 4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-946)
- 3) ☐ Information Disclosure Statement(s) (PTO/CDC)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date _____

Applicants' remarks and amendments, filed on December 31, 2007, have been carefully considered. Claim 2 has been canceled; no new claims have been added.

Claims 1, 3, and 4 remain pending in this application.

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Applicants' Priority Document was filed on September 23, 2005.

Withdrawn Rejection

The 103(a) rejection of Claim 2 as being unpatentable over the Matsushita Article in view of Obara et al. (U. S. Patent No. 4,041,144) stated in the previous Office Action, has been withdrawn in view of Applicants' cancellation of this claim.

Maintained Rejections

The following rejections of record have been maintained; the text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 103

2. ***Claim 1 stands rejected under 35 U.S.C. 102(b) as being anticipated by "Preparation of a Solid Superacid of Sulfated Tin Oxide with Acidity Higher than***

that of Sulfated Zirconia and Its Application to Aldol Condensation and Benzoylation," by Hiromi Matsuhashi, et al. (Applicants' submitted art, hereinafter "the Matsuhashi Article").

The Matsuhashi Article teaches the preparation of a solid superacid of sulfated tin oxide, wherein a tin oxide gel (prepared by hydrolysis of SnCl_2 ; considered equivalent to the phrase "crystalline metastannic acid") is washed with ammonium acetate solution ("organic acid ions"), and then is exposed to aqueous sulfuric acid (a "sulfate-group containing compound") and calcined. See the Abstract of the Matsuhashi Article.

In view of these teachings, the Matsuhashi Article anticipates claim 1.

3. Claims 3 and 4 stand rejected under 35 U.S.C. 102(b) as being anticipated by Kawamata et al. (U. S. Patent No. 4,208,537).

Kawamata et al. disclose a catalyst comprising chromium oxide, tin oxide (considered equivalent to the phrase "crystalline metastannic acid"), iron oxide, and sulfate radical, in atomic ratios of Cr:Sn:Fe:S that range from 100:0.1:0.01:0.25 to 100:60:20:20. See col. 4, lines 46-53, as well as col. 3, line 63 to col. 4, line 15, which discloses a catalyst comprising chromium oxide, tin oxide, and sulfate radical, such that the atomic ratio of Cr:Sn:S ranges from 100:0.1:0.25 to 100:60:20.

Conversion of the aforementioned atomic ratios to weight percentages results in tin contents exceeding 30 weight percent.

Because Kawamata et al. disclose a catalyst having more than 30 weight percent tin and sulfate content, Applicants' claim limitations regarding the "absolute value of argon adsorption heat" and "infrared reflection spectrum" are considered inherently present in the catalyst of Kawamata et al.

In view of these teachings, Kawamata et al. anticipate claims 3 and 4.

Response to Arguments

In response to Applicants' arguments that the cited references of record do not anticipate, teach, or suggest the claimed invention, the Examiner respectfully submits that Applicants' disclosure at the paragraph bridging pages 8 and 9 refer to "metastannic acid" as SnO_2 , otherwise known as tin oxide (disclosed by the references, as discussed above).

Although the Matsushashi Article "requires the use of a tin oxide gel from SnCl_2 ", the origin of the tin oxide (be it from hydrolysis of SnCl_2 , or via oxidation of metallic tin with nitric acid) is not considered critical to Applicants' invention as presently claimed.

With respect to the claimed properties of absolute value of argon adsorption of heat and the infrared reflection spectrum, Applicants have not sufficiently shown that the catalyst of Kawamata et al. (or the tin oxide component disclosed therein) does not exhibit these properties in values inferior to that presently claimed.

For these reasons, Applicants' arguments are not persuasive, and the rejections of record are maintained.

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PATRICIA L. HAILEY whose telephone number is (571)272-1369. The examiner can normally be reached on Mondays-Fridays, from 7:00 a.m. to 3:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorenzo, can be reached on (571) 272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1793

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group 1700 Receptionist, whose telephone number is (571) 272-1700.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jerry A Lorengo/
Supervisory Patent Examiner, Art Unit 1793

/PATRICIA L. HAILEY/
Examiner, Art Unit 1793
March 31, 2008